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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/964,893

09/28/2001

Claus Erdmann Furst

45900-00064

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10/29/2010

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EXAMINER

MEI, XU

ART UNIT

PAPER NUMBER

2614

MAIL DATE

DELIVERY MODE

10/29/2010

PAPER

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* CLAUS ERDMANN FURST, IGOR MUCHA,  
and LARS STENBERG

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Appeal 2009-004718  
Application 09/964,893  
Technology Center 2600

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Before, JOHN C. MARTIN, MAHSHID D. SAADAT, and  
CARLA M. KRIVAK, *Administrative Patent Judges*.

MARTIN, *Administrative Patent Judge*.

DECISION ON REQUEST FOR REHEARING<sup>1</sup>

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<sup>1</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the “MAIL DATE” (paper delivery mode) or the “NOTIFICATION DATE” (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

Appellants request rehearing of the March 23, 2010, Decision on Appeal (“Decision”), wherein we affirmed the rejection of claims 1, 5, 7, 17, 18, 36, and 38 under 35 U.S.C. § 103(a) for obviousness over Martin in view of Arndt. We have reconsidered the Decision in light of Appellants’ arguments but, for the reasons given below, are not persuaded of any error therein.

After correctly noting that “Martin teaches that the microphone 1, the pre-amplifier 8 and the A/D converter 7 of Martin are integrated in the housing 6 having the shielding 9 to shield the microphone 1 against high-frequency electromagnetic emission” (Req. Reh’g 3), Appellants argue that “one having ordinary skill in the art would not be motivated to include any further means (in addition to, the housing 6 having the shielding 9) to prevent the electromagnetic emissions” (*id.*). This argument is unpersuasive because the Examiner is not proposing to modify Martin for the purpose of preventing (or reducing) signal noise caused by *electromagnetic radiations*. Rather, the Examiner’s motivation for adding Arndt’s “customary [high-pass filter] circuit for coupling a microphone signal into an amplifier circuit” (col. 4, ll. 35-39) to Martin appears to be to reduce or eliminate the effects of *acoustic* noise received by the microphone. At page 4 of the Answer, the Examiner states that

[i]t would have been obvious . . . to provide or couple a customary high pass filter, as disclosed by Arndt, in [the] signal path between the pre-amplifier and the sigma-delta modulator of Martin in order to attenuat[e] or suppress[] the *low frequency band interference signal of the microphone input* thus to prevent low frequency

components from reaching the sigma-delta modulator to ensure more efficient signal processing by [the] hearing aid signal processor of Martin.

(Answer 4) (emphasis added). We understand the phrase “low frequency band interference signal of the microphone input” in this passage to be referring to the type of interference signals addressed by the *acoustic* high-pass filter (created by a small hole in the microphone’s membrane) discussed by Arndt at column 2, lines 36-48, i.e., to be referring to “interference signals of lower frequency, as occur in a car, for example, which otherwise could easily lead to over-amplification in the hearing aid device.” *Id.* at col. 2, ll. 36-48. These interference signals are therefore also the type of interference signals addressed by Arndt’s *electrical* high-pass filters 30 and 30’ (Fig. 2), whose limit frequencies are adjusted to match the limit frequencies of acoustic high-pass filters 2 and 2’ (col. 4, ll. 40-49).

Appellants also argue that “[d]espite mentioning that electric high-pass filters are customary circuits in hearing aid, Arndt fails to disclose, or suggest, the use of high-pass filters for filtering out noise, if the acoustic high-pass filter is already present” and that “[t]herefore, based on the disclosure of Arndt, one having skill in the art would not place an electric high-pass filter into the hearing aid taught by Martin.” (Req. Reh’g 5.)

This argument is unpersuasive as it incorrectly assumes that Martin has an acoustic high-pass filter. In the absence of such a filter in Martin, it would have been obvious to modify Martin so as to include such an acoustic high-pass filter or an electrical high-pass filter in order to, in the Examiner’s

words, “attenuat[e] or suppress[] the low frequency band interference signal of the microphone input” (Answer 4). An electrical high-pass filter, properly located, satisfies the claims.

Finally, Appellants argue that “the placement of the filter is advantageous” because “[a]t the selected location, all noise from the environment, or from EMI, which have coupled to the signal path will be filtered out if the filter is placed upstream of the A/D converter 7 and . . . downstream of the pre-amplifier 8.” (Req. Reh’g 5.) However, Appellants have not addressed, let alone shown error in, our reasons (Decision at 13-14) for concluding that it would have been obvious to locate the electrical high-pass-filter in the claimed location.

#### DECISION

The Request for Rehearing is denied.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1). *See* 37 C.F.R. § 1.136(a)(1)(v) (2010).

DENIED

Appeal 2009-004718  
Application 09/964,893

gvw

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